

## **REMARKS**

Claims 2 - 6 and 8 are pending and under consideration in the above-identified application.

In the Final Office Action, Claims 2 - 6 and 8 were rejected.

In this Amendment, Claims 2 and 8 are amended. No new matter has been introduced as a result of this Amendment.

Accordingly, Claims 2 - 6 and 8 remain at issue.

### **I. In The Specification**

The specification has been amended to further describe FIG. 1. No new matter has been added.

### **II. In The Drawings**

Fig. 11b was objected to because it failed to be designated by a legend such as –Prior Art—and Figs 2 and 6 were objected because they include reference characters not mentioned in the specification.

The objection to FIG.2 is now moot in view of the amendment to the Specification. Applicants have appropriately amended Figs. 6 and 11b and respectfully request that this objection be withdrawn.

### **III. 35 U.S.C. § 103 Obviousness Rejection of Claims 2-4 and 8**

Claims 2-4 and 8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Kobayashi, et al.*, (“*Kobayashi*”) (U.S. Patent No. 6,527,375 B2) from this point on referred to as “*Kobayashi B2*” in view of *Kobayashi et al.*, (“*Kobayashi A*”) (JP 11-207963 A) and *Lee, et al.* (“*Lee*”) (U.S. Patent 6,536,873 B1). Applicants respectfully traverse this rejection.

Claim 1 is directed to a printing apparatus.

In the relevant part, Claim 1 recites a printing apparatus comprises a plurality of heads disposed in a staggering overlapping relationship in a width direction of a printing medium, each one of the plurality of heads including a plurality of ink discharging portions provided in a juxtaposed linear relationship thereon, a pitch between ink discharging portions located at ends

of adjacent heads is identical to a space between ink discharging portions of each of the plurality of heads.

This is clearly unlike *Kobayashi B2*, *Kobayashi A* and *Lee*, taken singly or in combination with each other.

None of the references teach or suggest that a printing apparatus which comprises a plurality of heads disposed in a staggering overlapping relationship in a width direction of a printing medium, and a pitch between ink discharging portions located at ends of adjacent heads is identical to a space between ink discharging portions of each of the plurality of heads.

*Kobayashi B2* states in the description of FIG. 3(b), that (emphasis added):

“As shown in FIG. 3(b), a plurality of arrayed nozzles 103 are formed to the recording head 107. Details will be described below.

As shown in FIG. 3(b), *the ejection surface 301 is formed with a plurality of arrayed nozzles 103 arranged side by side in an x direction and each extending in an orifice-line direction 302, which is inclined by  $\theta$  with respect to a y direction perpendicular to the x direction.* As shown in FIG. 3(a), each arrayed nozzle 103 includes 128 orifices 201 arranged at a pitch of 75 orifices/inch in the orifice-line direction 302. Although not indicated in the drawings, adjacent arrayed nozzles 103 are usually overlap each other in the x direction by several-dot-worth amount. This arrangement prevents unevenness in ink density of recorded image, which appears in a black or white band shape, due to erroneous attachment or uneven nozzle characteristics, and also enables assembly of a recording head elongated in the x direction.”

See Column 5, line 60 to Column 6, line 10.

*Kobayashi A* states in the description of FIG. 1 (machine translation), that (emphasis added):

“[0021] *And the array form recording head 10 is what juxtaposed and formed two or more recording head parts 2 in line form,* and the recording electrode 1 which the tip projected in the counter electrode 8 direction is arranged at each recording head part 2. The recording voltage generating part 3 consists of 1st recording voltage generator 3<sub>1</sub> by which subordinate connection was carried out, 2nd recording voltage generator 3<sub>2</sub>, and 3rd recording voltage generator 3<sub>3</sub>.....”

*Lee* states in the description of FIGs. 1, 2, and 3, that (emphasis added):

“Referring to FIGS. 1, 2, and 3, print head 30 comprises a print head body, generally referred to as 170. *Print head body 170 has a plurality of elongate and parallel ink channels 180 cut therein, each channel defining a channel outlet 185 at one end*

*thereof*. Closing-off the other end of channels 180 is a backing plate 187 spanning all channels 180. Each of ink channels 180 is capable of accepting ink controllably supplied thereinto from reservoir 140, so as to define an ink body 190 in each channel 180. Print head body 170 also includes a surface 200 on which is affixed an orifice plate 210 having a plurality of generally circular orifices 215 formed therethrough and aligned with respective ones of ink channel outlets 185. Each of orifices 215 defines a center axis 217 normal to orifice 215.”

See Column 6, line 37 to line 49.

Thus, the *Kobayashi B2*, *Kobayashi A* and *Lee* references, taken singly or in combination with each other, fail to teach or suggest a plurality of heads disposed in a staggering overlapping relationship in a width direction of a printing medium, and a pitch between ink discharging portions located at ends of adjacent heads is identical to a space between ink discharging portions of each of the plurality of heads, as required by Claim 2.

Therefore, Claim 2 is patentable over the cited references, singly or in combination, as are dependent Claims 3 and 4, for at least the same reasons.

Claim 8, which recites the same distinguishable limitation as that of Claim 1, is also patentable over the cited references, singly or in combination.

Accordingly, Applicants respectfully request that this claim rejection be withdrawn.

#### **IV. 35 U.S.C. § 103 Obviousness Rejection of Claims 5-6**

Claims 5-6 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Kobayashi B2*, *Kobayashi A* and *Lee* as applied to claim 2 above, and further in view of *Ogasahara et al.*, (“*Ogasahara*”) (U.S. Patent Application No. 2003/0030824 A1).

Claims 5 and 6 are dependent on Claim 2, shown above to be patentable over *Kobayashi B2*, *Kobayashi A* and *Lee*.

Moreover, in addition to *Kobayashi B2*, *Kobayashi A*, and *Lee*, *Ogasahara* also fails to fairly teach or suggest a plurality of heads disposed in a staggering overlapping relationship in a width direction of a printing medium, and a pitch between ink discharging portions located at

ends of adjacent heads is identical to a space between ink discharging portions of each of the plurality of heads.

Thus, no combination of the cited references fairly teaches or suggests the subject matter of Claim 2. Accordingly, Claim 2 is patentable over the cited references, taken singly or in any combination with each other, as are dependent Claims 5 and 6, for at least the same reasons.

Accordingly, Applicants respectfully request that these claim rejections be withdrawn

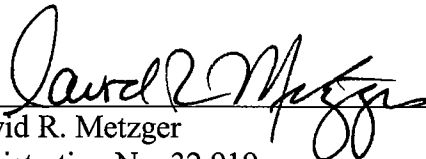
**V. Conclusion**

In view of the above amendments and remarks, Applicant submits that Claims 2 - 6 and 8 are clearly allowable over the cited prior art, and respectfully requests early and favorable notification to that effect.

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Respectfully submitted,

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